



United States Department of the Interior

FISH AND WILDLIFE SERVICE

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January 16, 2015

To: Interested Parties

From: Josh Gruber, Fish Biologist, Red Bluff Fish and Wildlife Office

Subject: Biweekly report (December 17, 2014 – December 31, 2014)

Please find attached preliminary daily estimates of passage, 90% confidence intervals, and fork length ranges of juvenile salmonids sampled at Red Bluff Diversion Dam for the period December 17, 2014 to December 31, 2014. Race designation was assigned using length-at-date criteria.

This report also contains graphical displays of salmonid passage dating back to 2007 for comparison.

Please note that data contained in these reports is subject to revision as this data is preliminary and undergoing QA/QC procedures.

If you have any questions, please feel free to contact me at (530) 527-3043 ext 233.

Table 1.— Preliminary estimates of passage by brood-year (BY) and run for unmarked juvenile Chinook salmon and steelhead trout captured by rotary-screw traps at Red Bluff Diversion Dam (RK391), Sacramento River, CA, for the dates listed below. Results include estimated passage, peak river discharge volume, water temperature, turbidity, and fork length (mm) range in parentheses. A dash (-) indicates that sampling was not conducted on that date.

Date	Discharge volume (cfs) ¹	Water temperature (°C)	Water turbidity (NTU)	Estimated passage				
				BY14 Winter	BY14 Spring	BY14 Fall	BY14 Late-Fall	BY14 RBT
12/17/2014	22,000	10.6	(-)	(-)	(-)	(-)	(-)	(-)
12/18/2014	20,500	11.1	(-)	(-)	(-)	(-)	(-)	(-)
12/19/2014	21,400	11.3	(-)	(-)	(-)	(-)	(-)	(-)
12/20/2014	43,200	11.6	(-)	(-)	(-)	(-)	(-)	(-)
12/21/2014	27,900	11.9	(-)	(-)	(-)	(-)	(-)	(-)
12/22/2014	27,200	12.6	(-)	(-)	(-)	(-)	(-)	(-)
12/23/2014	15,900	12.4	37.8	517 (67 – 97)	1,795 (39 – 47)	64,604 (31 – 196)	792 (112 – 118)	0 (-)
12/24/2014	11,200	11.9	29.8	217 (66 – 102)	401 (39 – 41)	89,952 (29 – 196)	328 (108 – 130)	0 (-)
12/25/2014	9,890	10.7	(-)	(-)	(-)	(-)	(-)	(-)
12/26/2014	9,400	9.4	(-)	(-)	(-)	(-)	(-)	(-)
12/27/2014	8,170	8.9	(-)	(-)	(-)	(-)	(-)	(-)
12/28/2014	7,450	9	(-)	(-)	(-)	(-)	(-)	(-)
12/29/2014	6,950	8.8	(-)	(-)	(-)	(-)	(-)	(-)
12/30/2014	6,570	7.9	16.1	210 (70 – 106)	36 (41)	46,407 (30 – 39)	289 (112 – 122)	0 (-)
12/31/2014	6,300	7.6	19.6	311 (72 – 108)	0 (-)	43,007 (29 – 39)	163 (112 – 132)	0 (-)
Biweekly Total ²				5,587	13,730	930,537	7,624	0
<i>Biweekly Lower 90% Confidence Interval</i>				1,671	3,206	345,224	2,192	0
<i>Biweekly Upper 90% Confidence Interval</i>				9,503	24,255	1,515,850	13,056	0
Brood Year Total				396,725	33,767	987,529	105,717	61,699
<i>Brood year Lower 90% Confidence Interval</i>				236,750	9,795	355,771	47,763	21,716
<i>Brood year Upper 90% Confidence Interval</i>				556,700	57,739	1,619,288	163,671	101,682

¹ Peak daily discharge values do not account for diversions at RBDD and only represent peak flows registered at the Bend Bridge Gauging station (<http://cdec2.water.ca.gov/cgi-progs/queryFx?bnd>).

² Biweekly totals may be greater than the sum of the daily estimates presented in this table if sampling was not conducted on each day of the biweekly period. A dash (-) denotes those dates. To estimate daily passage for days that were not sampled, we impute missed sample days with the weekly mean value of days sampled within the week.

Juvenile Winter Chinook Salmon Estimated Passage

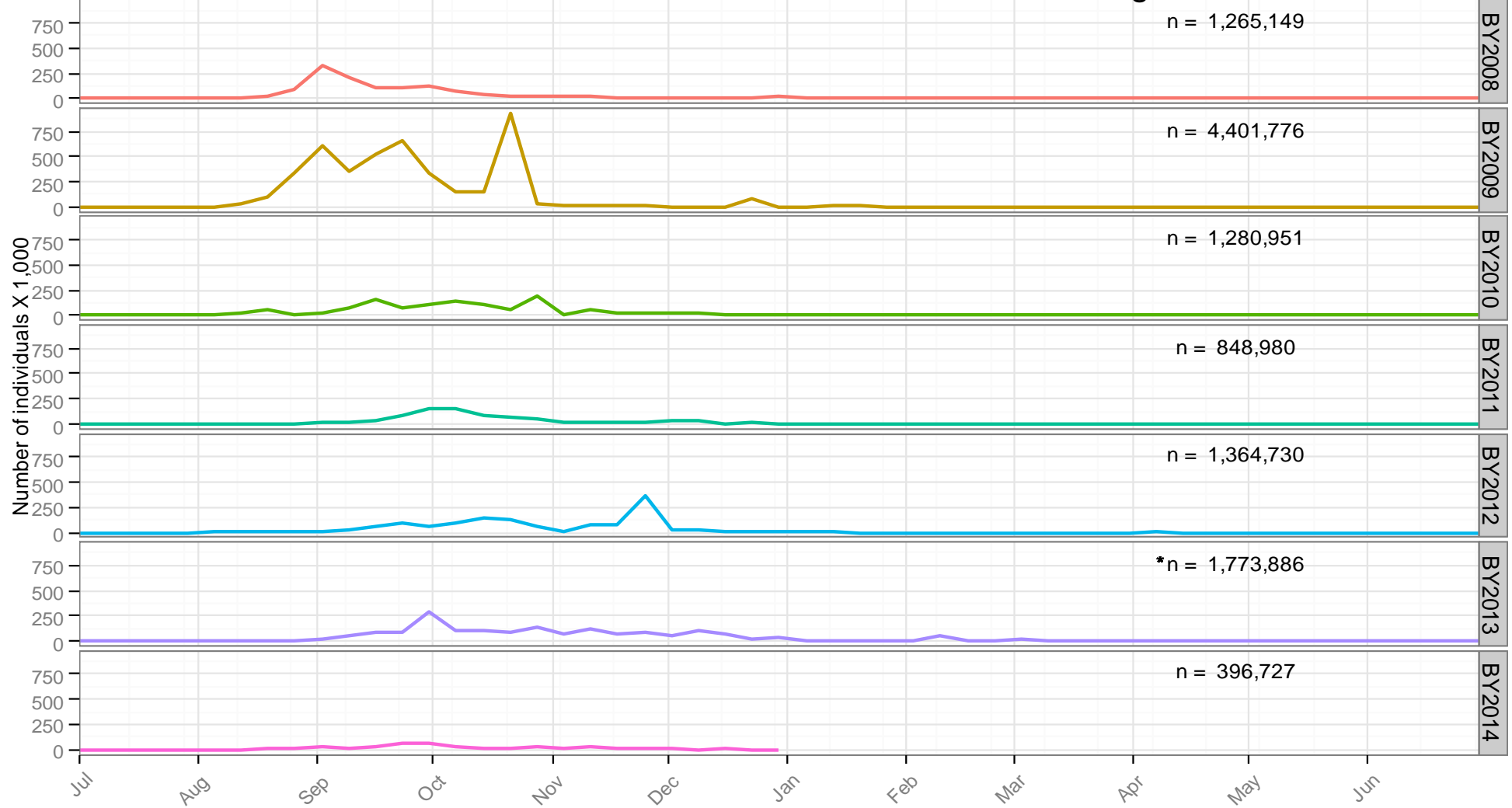


Figure 1. Weekly estimated passage of juvenile winter Chinook Salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period July 1, 2008 to present .

*Winter run passage value interpolated using a monthly mean for the period October 1, 2013 - October 17, 2013 due to government shutdown .

Juvenile Spring Chinook Salmon Estimated Passage

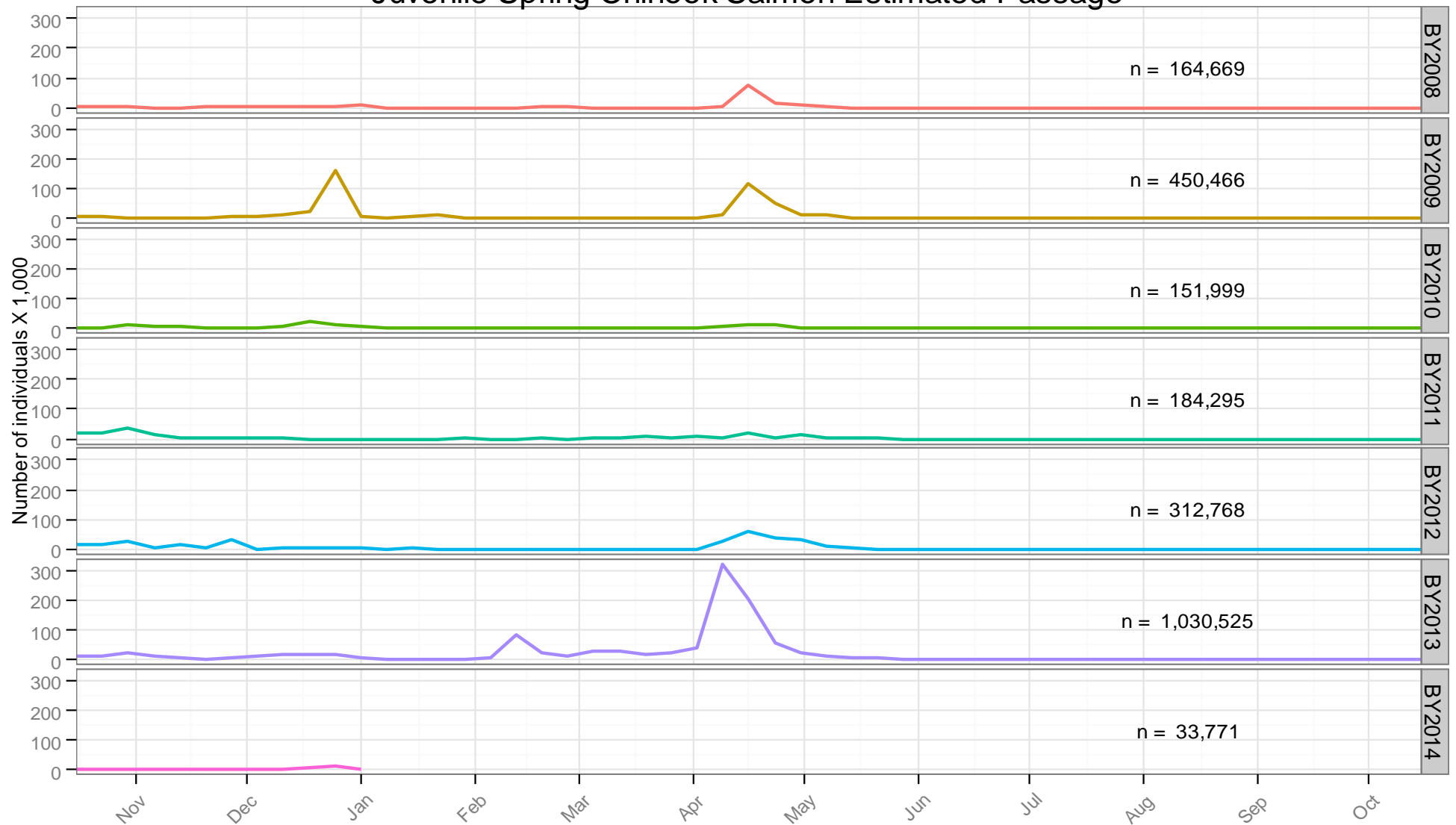


Figure 2. Weekly estimated passage of juvenile Spring Chinook Salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period October 16, 2008 to present .

Juvenile *Onchorhynchus mykiss* Estimated Passage

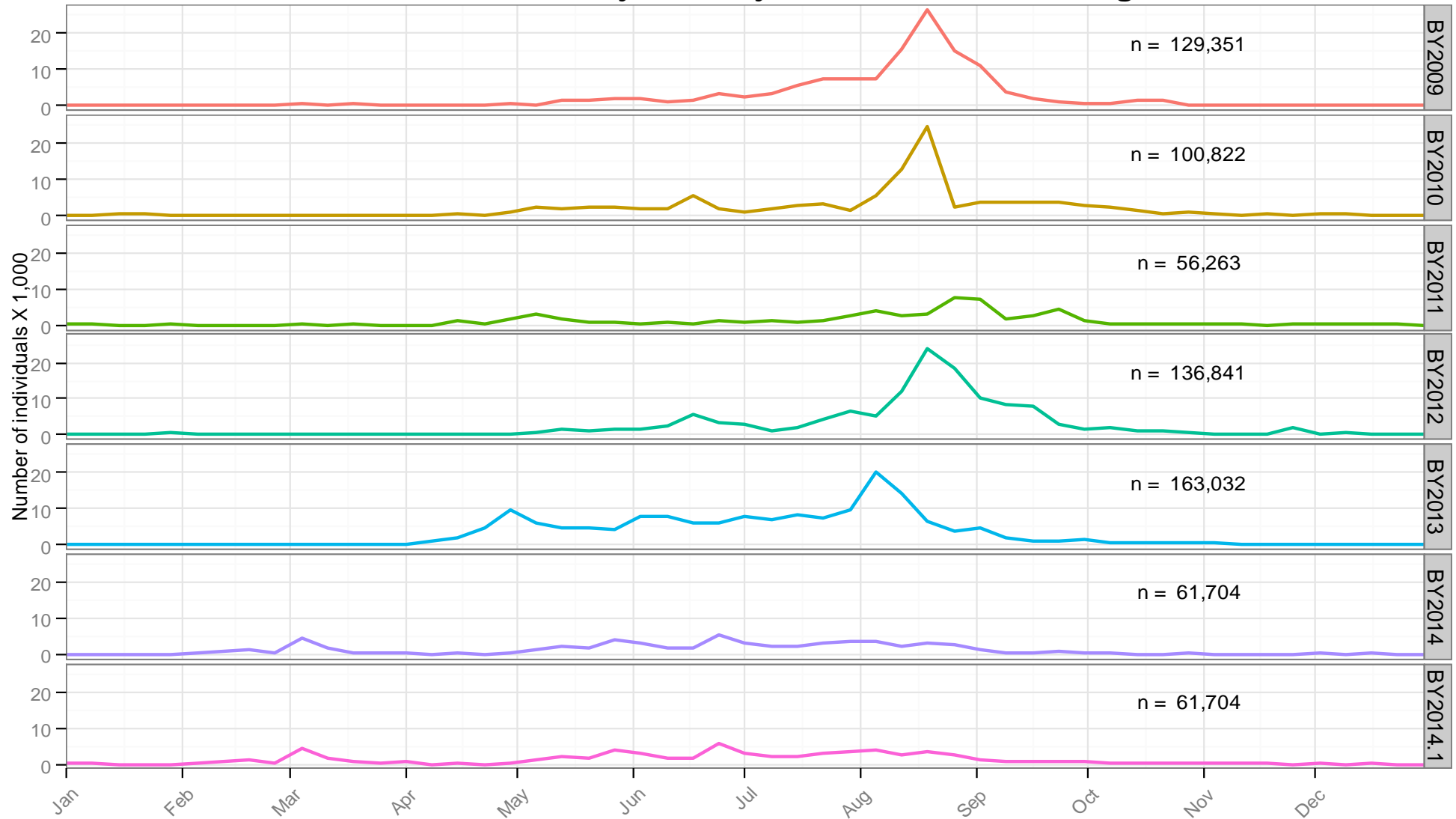


Figure 3. Weekly estimated passage of juvenile Rainbow/Steelhead trout at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period January 1, 2009 to present .

Juvenile Fall Chinook Salmon Estimated Passage

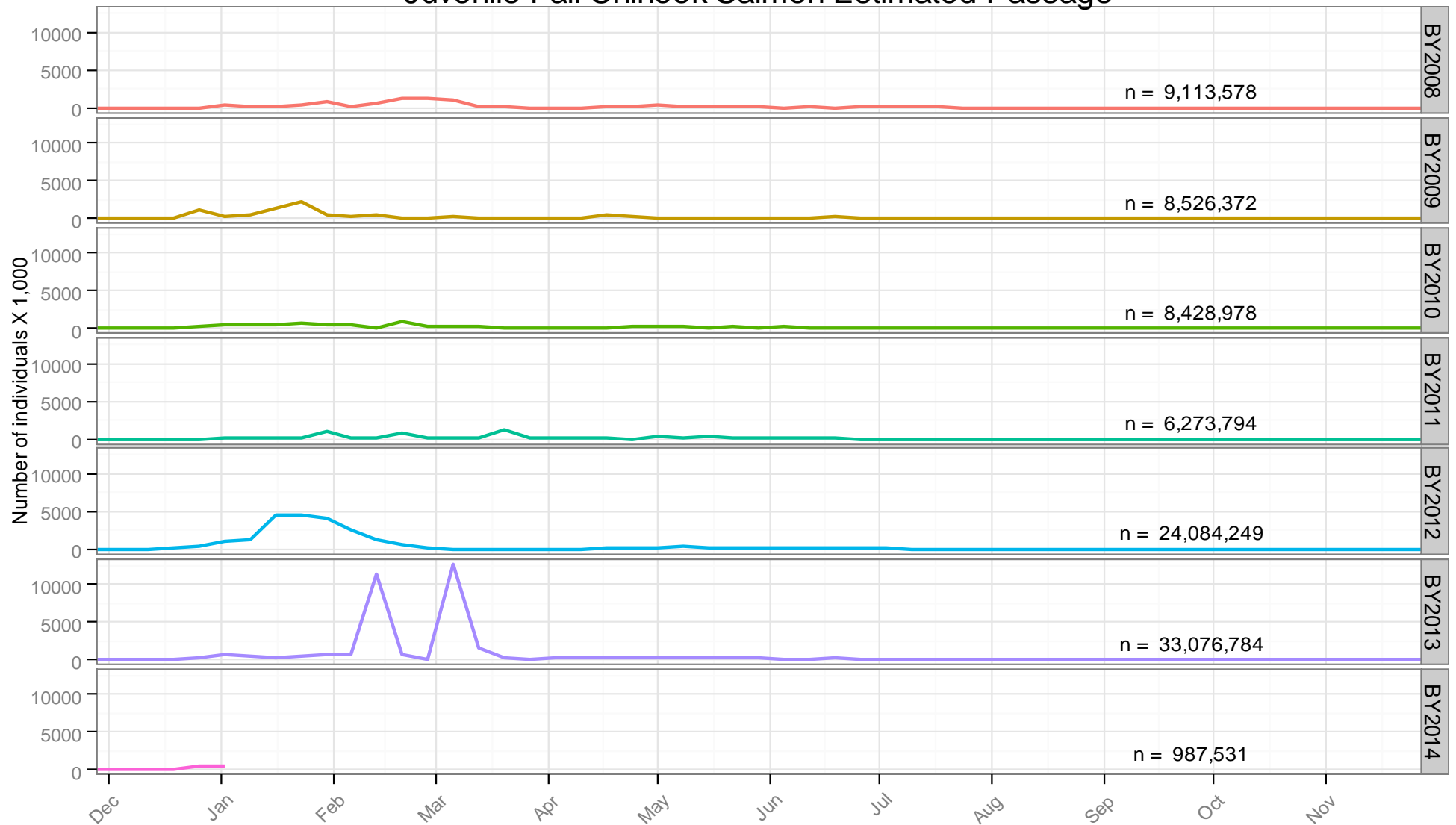


Figure 4. Weekly estimated passage of juvenile Fall Chinook Salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period December 1, 2008 to present .

Juvenile Late Fall Chinook Salmon Estimated Passage

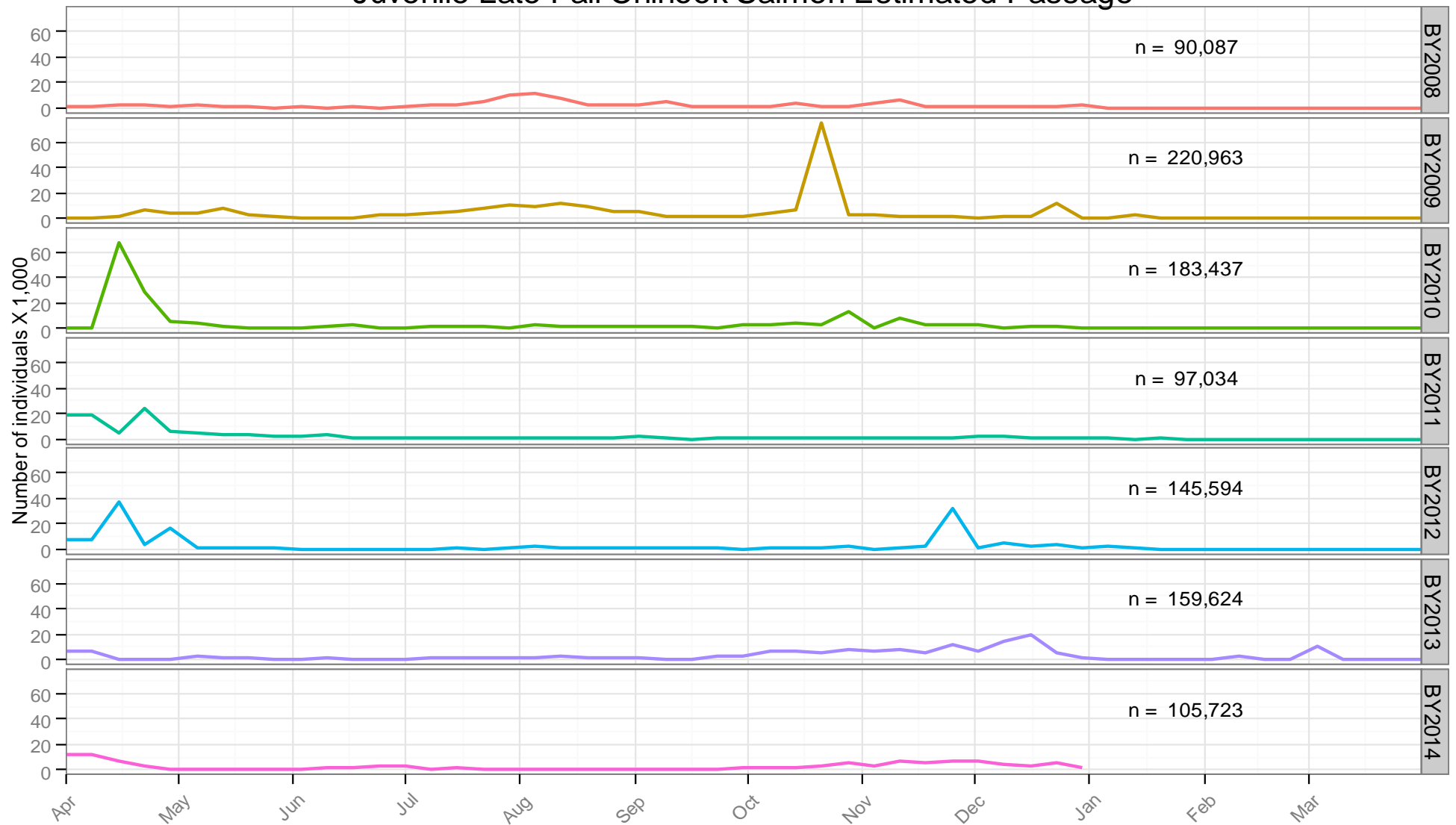


Figure 5. Weekly estimated passage of juvenile Late Fall Chinook Salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period April 1, 2008 to present .

Weekly Estimated Chinook Passage at Red Bluff Diversion Dam - All Runs Combined

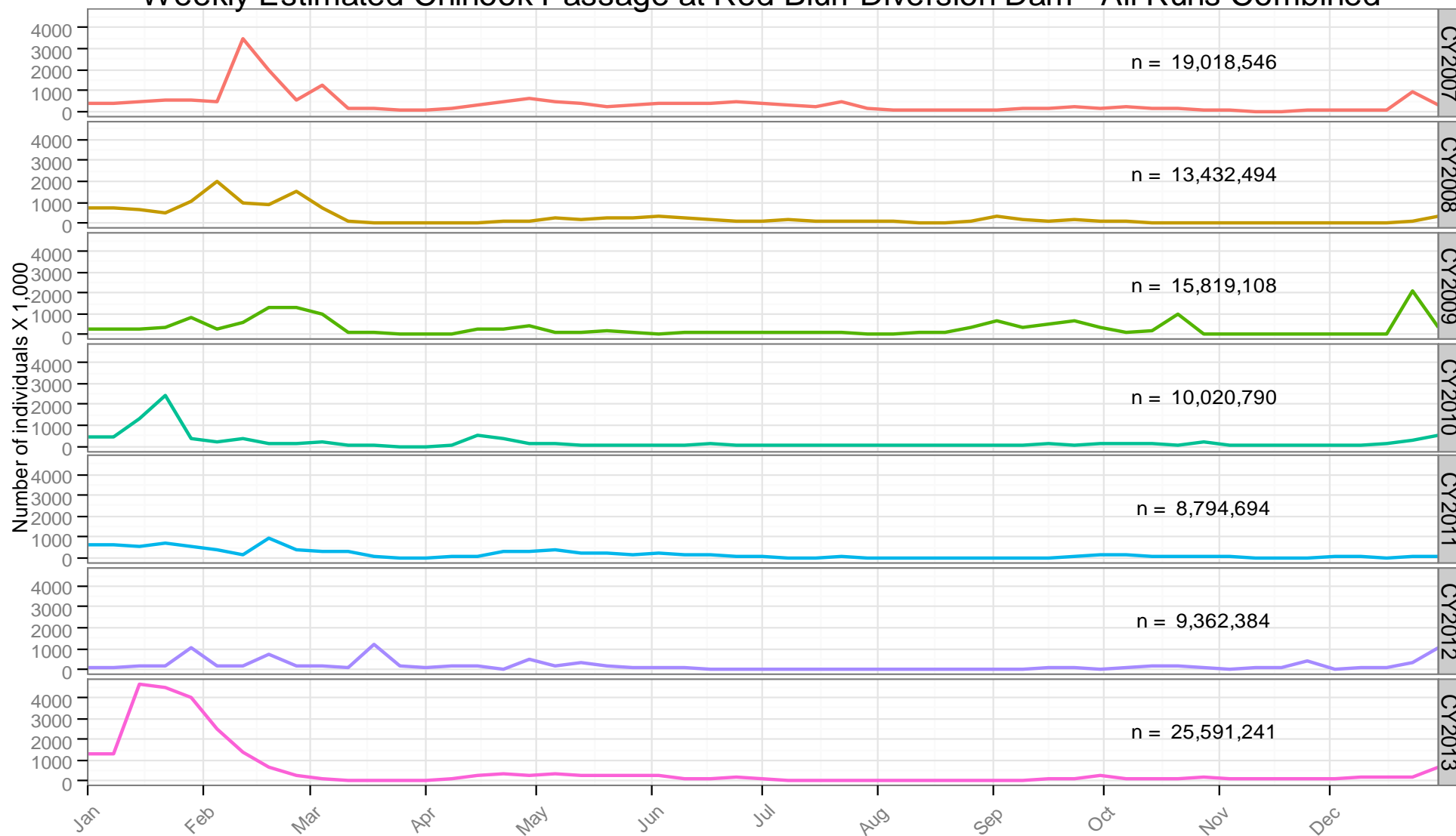


Figure 6. Weekly estimated passage of juvenile Chinook Salmon at Red Bluff Diversion Dam (RK391) by calendar year. Fish were sampled using rotary-screw traps for the period January 1, 2007 to December 31 2013